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SE, SI, SK, TR). OAPI patent (BF, BJ, CF, CG, CI, CM,  
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see PCT Gazette No. 24/2004 of 10 June 2004, Section II

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/25707

**A. CLASSIFICATION OF SUBJECT MATTER**IPC(7) : E21B 43/10  
US CL : 166/207,380,242.6

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 166/206,207,242.1,242.6,380-382

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4,388,971 A (PETERSON) 21 June 1983 (21.06.1983), see entire document, especially Figs. 1A-2D.	1-25
A	US 6,516,880 B1 (OTTEN et al.) 11 February 2003 (11.02.2003), see entire document, especially Figs. 1-24.	1-8
A	US 6,5654,875 B1 (BULLOCK) 20 May 2003 (20.05.2003), see entire document, especially Fig. 1.	9-25



Further documents are listed in the continuation of Box C.



See patent family annex.

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